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C L A I M S

- 10      1. Apparatus for optimized electro-hydraulic pressure pulse generation, characterized in that an electro-hydraulic shock wave system is equipped with a measuring and control device (13a, 13b), which measures the discharge current between the electrode tips (4, 5).
- 15      2. Apparatus as claimed in claim 1, characterized in that the measuring and control device (13a, 13b) measures the discharge voltage.
- 20      3. Apparatus as claimed one of the foregoing claims, characterized in that the measuring and control device (13a, 13b) defines the discharge output.
- 25      4. Apparatus as claimed one of the foregoing claims, characterized in that the measuring and control device (13a, 13b) compares at least one measured or control value with at least one set value.
- 30      5. Apparatus as claimed one of the foregoing claims, characterized in that the electrode distance (6) is variable.
6. Apparatus as claimed in claim 5, characterized in that in case of deviation of at least one measured or control value from at least one set value or in case of deviation of

measured and control value curves from set value curves, the measuring and control device (13a, 13b) corrects the electrode distance (6).

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7. Apparatus as claimed in one of the foregoing claims, characterized in that in case of deviation of at least one measured or control value from at least one set value or in case of deviation of measured and control value curves from set value curves, the measuring and control device (13a, 13b) corrects the charging voltage.

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8. Use of an apparatus as claimed in one of the foregoing claims for the extra-corporeal disintegration of concretions in human beings and mammals or for the extra-corporeal treatment of tissues.

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9. Process for the generation of optimized electro-hydraulic pressure pulses characterized by the following process steps:

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- a) Setting of the RLC circuit and of the electrode distance in an electro-hydraulic shock wave system to selected initial parameters,
- b) Initiation of the discharging process,
- c) Determination of the discharge current and at least one measured value by a measuring and control device,
- d) Comparison with at least one set value,
- e) Correction of a system parameter by a correction increment based on the deviation from the set value,
- f) Further with b)

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